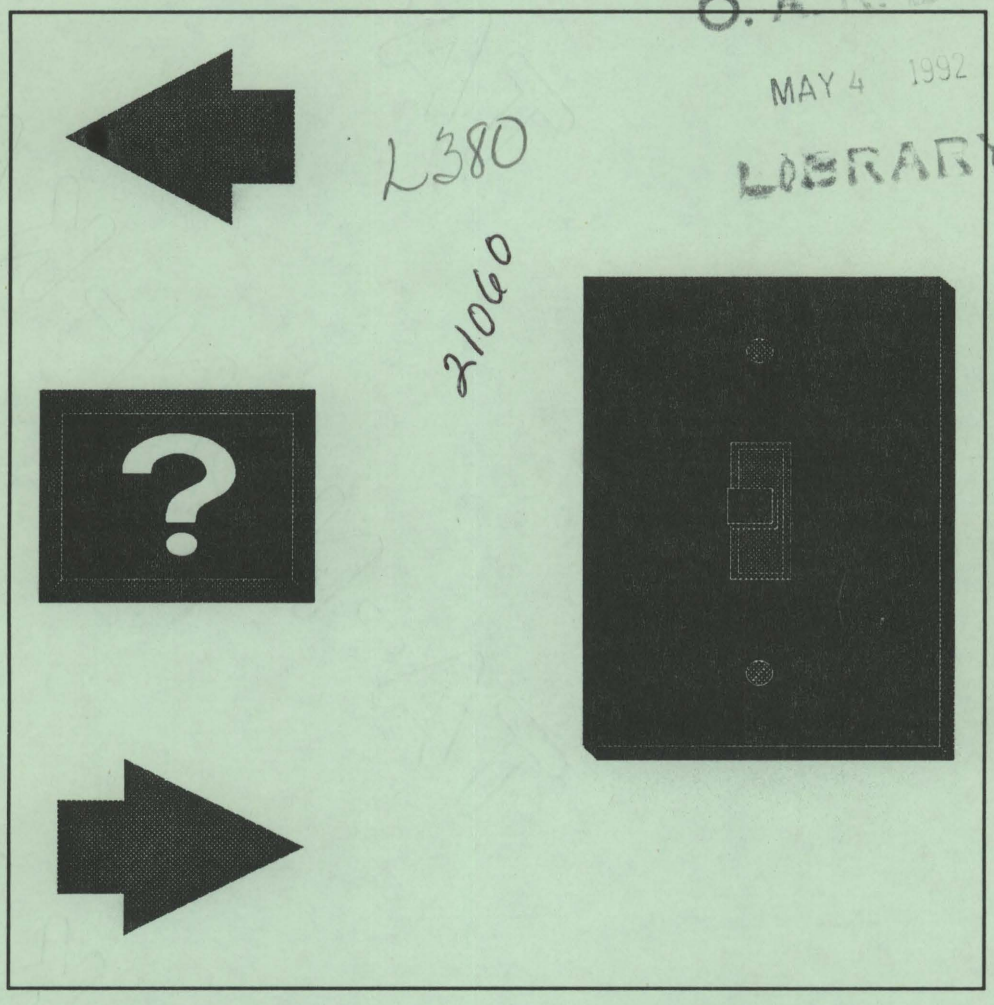
A GUIDE TO THE PREPARATION OF A GRANT PROPOSAL



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A Guide To The Preparation Of A Grant Proposal

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The box on the cover signifies a problem space. Each problem we face is like a box which contains information about the problem. Once inside the box we are faced with the challenge of reviewing the information and selecting an appropriate action. The manner in which we review the information will impact our decision (Hudson, 1991).

The views and opinions expressed herein are the authors' responsibility and do not necessarily reflect those of West Virginia University nor The Ohio State University. The authors wish to acknowledge the review comments of Kerry Odell, Dale Colyer, and Virgil Norton.

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A GUIDE TO THE PREPARATION OF A GRANT PROPOSAL

INTRODUCTION

Most research projects require some type of support. Obtaining financial support often necessitates the development of a grant proposal for review by the granting agency. This Guide is designed to assist graduate students, who have had limited experience in writing research proposals for theses and dissertations, and University faculty who may wish to prepare grant proposals. Emphasis is on the development of a research proposal based on scientific research methods and technical writing skills. The structure and contents of the Guide are intentionally simplified to facilitate an understanding of each component of a grant proposal (Gebremedhin and Tweeten).

Identifying potential funding sources is the first step in preparing a successful proposal. The next step is to obtain the potential funding agency's published proposal submission guidelines because proposal writing procedure differs when the proposal is prepared for an academic institution, government agency or industry. To enhance the probability of funding published guidelines must be followed. Guidelines are outlined to help researchers and institutions prepare proposals for research. Samples 1 and 2 contain illustrations of specific proposal guidelines from the Northeast Regional Center for Rural Development (*Proposal Kit*) and the Hatch, McIntire-Stennis, or Cooperative State Research of the U.S. Department of Agriculture (Barr).

The research proposal may be looked upon as a sales and a planning and management document. It describes the intended research in a manner that will stimulate the interest of the potential sponsor, pointing out its value, both economic and social, to the community or clientele. It shows the process by which the objectives of the research can be met and solutions can be achieved.

Research proposals, like other forms of written communication, are best introduced by a short, carefully devised statement that establishes the overall area of concern. The preparation of a proposal cannot and should not follow a rigid formula. As the personality of a salesman is reflected in his sales approach, so the personality of the researcher should be reflected in the presentation of the proposal. Proposals presented by different researchers would be expected to differ though they might address themselves to the same subject and may offer the same alternative solutions.

GENERAL COMPOSITION AND ORGANIZATION

It is first desirable to prepare an outline of the planned proposal. The researcher should ensure that the proposal is complete but is presented in as concise a manner as possible. Proposals are evaluated on the basis of several criteria which may differ from one funding agency to another. However, criteria often include the clarity and relevance of the problem statement, the cogency of the conceptual approach, the availability of relevant data, the duration and budget, and the appropriateness of the research methods to the problem being addressed. A proposal is usually a challenge to the author's scientific thought and writing skills. It should be well-organized to convey ideas logically.

A proposal is formally divided into sections and subsections to assist review. A typical format used to prepare a grant proposal is discussed below. The works of Locke, Gebremedhin and Tweeten, and UN/DESA are incorporated in this discussion to illustrate the elements of a typical format.

1. Title or Cover Page
2. Table of Contents
3. Abstract or Summary
4. Text or Main Body of the Proposal
5. Significance or Impact of the Proposal
6. Capabilities of Personnel and the Institution
7. Supportive Service and Cooperation
8. Duration of the Project
9. Dissemination of Results
10. Proposed Budget.

Title or Cover Page

A bound and covered proposal ordinarily is used when the total number of pages is greater than five or when the proposal is complex enough to require formal subdivision. The cover page includes a brief and professionally informative title or subject of the research proposal, the complete name, mailing address, telephone and fax numbers of the principal investigator(s) and/or the institution(s) submitting the proposal, the organization

to which the proposal is being presented, the date of submission, and the proposal number (if necessary) to permit easy reference and filing, the total estimated budget, proposed starting date and the total planned duration of the activity, signatures of the principal investigator(s) and an official authorized to commit the grantee institution in administrative and financial affairs. (Proposals lacking those signatures and endorsement are considered incomplete and are usually returned to the applicant). On top of this cover page, a transmittal letter is also attached to introduce the grant proposal to the potential sponsoring organization.

The title of the proposal is the first contact a reader has with proposed research. First impressions generate powerful anticipations about what is to follow. The first rule in composing a title is to achieve reasonable parity between the images evoked by the title and the opening pages of the proposal. The proposal title calls for careful consideration of all the functions it must serve and the standards by which it will be judged. In general, the title should be concise and should describe as accurately as possible the main elements in the study.

Table of Contents

A table of contents should be included if the text has more than one level of subdivision or if, having only one level, it contains more than about five headings. Page numbers should be provided for all entries and the entries should be listed in the order they appear in the text. Tables, figures, abbreviations, and literature cited should be listed with page numbers in the table of contents.

Abstract or Summary

An abstract or preproposal (a brief summary of a larger document) is prepared early in the proposal development process if the text is longer than about ten pages and has more than one level of subdivision. Purposes are to:

1. Focus the thinking of individuals developing the proposal by establishing a clear and brief summary of major elements.

2. For internal purposes to obtain preliminary administrative approval or to solicit support and cooperation from other units.

3. Serve as the basis for a "letter of intent", which, in essence, is a one or two page abstract of the proposed study. Potential sponsors are likely to read the letter of intent first. Then, the letter is screened and ranked on pre-established criteria. Whether or not a letter of intent is required, the abstract bears a disproportionate share of responsibility for success or failure of the proposal.

In the abstract, the contents of the proposal are abridged or summarized to no more than one or two pages with the primary intention of conveying key information to those who need not read the full proposal. Since the abstract is a one-shot communication, absolute clarity is essential. It must accomplish the dual tasks of providing a concise picture of the study while also highlighting its unique characteristics that will sustain the special interest and attention of the potential sponsor. Each word and sentence must convey a precise message to the reader in plain language. Only information essential to a coherent, comprehensive statement of the proposed research work should be included.

Text or Main Body of the Proposal

The project description is the core of the proposal. The text of a proposal includes a thorough narrative statement or justification about the nature and significance of the research problem, hypothesis, objectives, literature review, and methodology of the research work. The main body of the proposal should begin with a statement of a problem, and of what will be accomplished -- presented in a format of a research question or testable hypothesis. The objectives of the proposed research must be stated. The clarity and precision with which the objectives and problem are presented may control how carefully the reviewer attends to the subsequent section on procedures. A detailed account of the methods to be employed to meet the stated objectives is essential. The discussion of methodology used in the project must include the types and sources of data and the proposed methodology to collect the required data. Do not include an extensive literature review, but do include relevant citations in the body of the proposal. A bibliography of research literature pertinent to the proposed activity is also required.

Well-prepared project description would relate the proposal to the present state of knowledge in the field, outline a plan of work, specify the technical approach and experimental methodologies and procedures to be followed, and describe the facilities and instrumentation to be used. How research is performed determines its quality and potential, and it is why some potential sponsoring agencies fund procedures more than the objectives of the research. Project descriptions should be concise and generally should not exceed ten single-spaced typed pages (depending upon the number of pages required by the sponsoring agency).

The main body of the proposal should be written on the premise that the cooperating or funding organization is unfamiliar with the problem(s). A grant or
contract proposal is likely to contain more justification than a project statement or research report. The reason is to convince the potential funding agency of the merit of the project. By far the best sales pitch is a carefully designed and well-written project of interest to the funding agency. The proposal should demonstrate that it is technically applicable, economically feasible, and socially acceptable to support the project.

Significance or Impact of the Proposal

It is not unusual for funding agencies to require a section entitled "significance of the proposed research." Funding agencies are accountable either to the public, their benefactors, or other authority for the expenditure of their funds. The proposal and the analysis it will generate constitutes the last opportunity to convince the prospective funding agency that the project is important and should be supported. Responsiveness to criteria and the existing interests and commitments of the funding agency will improve chances to obtain support for the research.

Capabilities of Personnel and the Institution

The proposal must convince a potential sponsor or funding agency that the soliciting institution or principal investigator is capable of doing the work being proposed. A paragraph or two should describe the institution in general terms, mentioning its facilities, the size of its staff and professional make-up, the commitment to performing the project, its professional strengths, and any relevant relationships it may have with government, educational, or professional organizations. Capabilities may be explained by describing disciplines in which exemplary or complementary research has been or is currently being undertaken. Special facilities or capabilities are described that would make the institution particularly well suited to perform the proposed project. The success of completed projects and some important ongoing projects are mentioned to highlight skills and capabilities available in the proposed project.

The staff needed for the research project should be carefully planned and kept as small as possible while maintaining services essential to conduct of the study. The staff requirements should be explained in detail. A prospective sponsor is always interested in knowing the caliber of personnel to be assigned to do the research work. Assignment of a well-qualified project leader and productive supporting staff is often a key factor on which the sponsoring agency bases its funding decision. The project leader and other key personnel involved in the project, should include reasonably short bio-data with the proposal. The biography should be limited to one or two pages. That bio-data should contain the following elements:

1. Name and title of the principal investigator and the department of the institution with which he/she is identified.

2. Education, degree, institution, and main field of competence (not fields of interest).

3. Significant professional accomplishments, total years and short description of professional experience in reverse chronological order.

4. Related capabilities, credentials, unique skills and evidence of relevant training completed.

5. Professional affiliation or membership, honors, and scholastic awards.

6. Major publications and all relevant publications during the past five years in the area of or related to the study, previous grants, involvement in a similar study, conference presentations in the area of the study, and completed or pilot studies in the area of the proposal.

Supportive Services and Cooperation

It is essential to describe the roles played by each institution and organization that will collaborate with or be the focus of the project. It is necessary to confirm the cooperation, support, and participation of such individuals and groups. Written evidence should attend the proposal, showing that the appropriate authorities have reviewed the proposal and are prepared to participate if the grant is awarded. Funding chances are often enhanced if such individuals and groups have a high political profile that will bring recognition to the project.

Duration of the Project

A time frame for starting and completing specific tasks of each part of the research project should be specified. That time frame has several useful functions:

1. It helps to keep the principal investigator and supporting staff on schedule throughout the duration of the project.

2. It gives foresight to allocate and schedule the time for hiring personnel, ordering equipment and supplies, putting equipment and facilities into operation, data collection, data analysis, and writing progress and final reports.

3. It will enhance the reviewer's understanding of the entire project. A well-conceived time frame will document the applicant's organizational skill. It will convince the reader that the applicant knows the area, the methodologies to be used, and the effort required.

4. It will help to identify specific tasks to be performed, prepare program management and budgeting, and establish progress benchmarks of reporting research findings.

Dissemination of Results

Funding agencies usually want a major effort to disseminate results. Research is incomplete without dissemination of a report. The proposal needs to explain which results will be reported, the appropriate audience, and the plan or form (popular press, research reports, bulletin, journal papers, etc.) to disseminate the final result of the study. All parties involved should be aware beforehand if the funding agency holds proprietary rights to findings and/or editorial power over publication of results.

Proposed Budget

Most application formats for research project funding require that the budget be presented in brief form with no more than a page or two of appended explanation. A clear understanding of what portions of a budget must go for specific purposes at specific times needs to be worked out between the parties involved. The principal investigator usually likes as much flexibility as possible in budgets while funding agencies often request specificity. Grant applications generally must include a summary budget covering the duration of the proposed project, and separate budgets for each individual year of support requested. As necessary, project costs subsequently may be adjusted to the extent possible in accordance with the level of inflation. Generally, a budget includes the following items: personnel, supplies and equipment, data collection and results dissemination, and overhead costs.

The budget includes personnel for whom funds are requested. It is important to demonstrate the need by specifying the personnel time and responsibility for the tasks of each position. It is essential to specify the qualifications or special certification desired for the project. Contributions in cash or kind by sponsoring individuals or institutions must be noted in the proposed budget.

Supplies and equipment needs must be included. Effort should be made to give realistic estimates of supplies needed. If funds for the purchase of major equipment are requested, the budget justification section might explain why alternative plans such as rental or sharing will not suffice. Generally, funding agencies are not well disposed to requests for extensive equipment purchases. The position of many agencies is that the university should supply all of the basic and less specialized equipment, as well as most large items that represent expensive and permanent investments in research capability. It should be clear who will own, after project completion, the equipment purchased with project funds.

Costs for data collection and dissemination of results can be built into the budget. Costs for everything from the preparation of the manuscript to publication printing and mailing reports also are appropriate. Only travel that is necessary to complete the research and, perhaps, to disseminate findings should be included in the budget.

The proposed budget will include indirect or overhead costs that the funding agency will pay directly to the institution. Such costs vary widely and are negotiated by the agency and the university or other recipient institution. Many large institutions have a standing policy on overhead costs for all grant contracts. Indirect charges presumably reimburse the university for the cost of administrative overhead, building maintenance, utilities, and all items that would have to be purchased by the grantor if the study were conducted at a facility owned by the agency. Other budget items dictated by the institution are fringe benefits such as insurance, retirement, and medical benefits for project personnel. It is always wise and generally necessary to take an early draft of the budget to the university officer in charge of grant negotiations and obtain assistance on all items not directly dictated by the nature of the research process itself.

PROCESSES FOR EVALUATING PROPOSALS

It is important to realize that project proposals should be reviewed and cleared by the home institution before they are submitted to the funding agencies. Proposal applications usually undergo administrative and technical review at the sponsoring agency before approval for funding. Criteria are developed and applied to evaluate the proposed activity if it yields significant contributions or advances in an evolving body of knowledge in its area; to relate to the professional capabilities and adequacy of the institutional resources and the technical defensibility of the proposal; to gauge the relevance of the proposed activity to the goals of funding agency; to relate the potential of the proposed activity for contributing to the effectiveness of research management and information dissemination; and to identify how the findings may be applied to human services and technical development. In view of the issues indicated above, it is essential to carefully check the research proposal before submitting to the potential funding agency. The proposal should be evaluated in light of the following checklist:

A. Proposal Format

1. Does the format of the proposal adhere to suggested guidelines specified by the granting agency?
2. Is the proposal well prepared and concisely written?
3. Is the project idea succinctly summarized in the abstract?
4. Does the proposal properly cite and document pertinent previous and current research findings from the scientific literature relevant to the proposed study?

B. Relevance of Proposal

1. Are the objectives of the proposal consistent with the mission of the grantee organization and the granting agency?
2. Do the objectives of the proposal provide feasible solutions to the problems of the target clientele, considering the capabilities of the research unit and resources?

3. What is the overall scientific merit of the proposal in terms of quality, importance, potential impact on progress and contribution to the scientific field?

C. *Appropriateness of the Methodology*

1. Are the objectives clearly stated in a concise and understandable form?
2. Does the methodology (procedures) logically and orderly follow the objectives?
3. Does the proposed research use appropriate procedures, experimental design, and methods to meet objectives and test hypotheses?
4. Is the methodology designed to allow statistical evaluation of the results?
5. Is a clearly defined time frame provided for completion of each objective?
6. Are the empirical findings built upon the current level of knowledge and documented in the review of literature?

D. *Personnel, Facilities, and Cooperation*

1. Can the personnel involved (time wise, expertise, and needed resources) adequately and reasonably be expected to carry out the research project?
2. Does the research proposal show evidence of multi-disciplinary collaboration in planning and proposed conduct of research?
3. Are there any indications for meaningful integration, multi-institution collaboration, and cooperation from other organizations? Have suitable commitments been obtained?
4. Are adequate support personnel, facilities, equipment, and supplies available (or to be made available) for successful completion of the project?
5. Are guidelines for affirmative action, animal welfare, safety, and environment met?

E. *Budget*

1. Are the major budget categories (personnel, direct and indirect costs, etc.), as applicable, being included in the proposal?
2. Is the budget consistent with and realistic to accomplish the specified objectives?
3. Does the budget reflect the contributions of participating institutions?

F. *Information Dissemination*

1. Are suitable plans included in the proposal to make the findings of the project readily available to the intended audience?
2. Is there a specific plan to publish the results in a journal or other appropriate channels for utilization and application of results?

CONCLUDING REMARKS

An institution or individual researcher may plan and be capable of conducting a needed research project. But unless the ideas can be effectively communicated in a convincing manner to prospective funding organizations, the project will not be funded. The research proposal is the medium through which such information is communicated. A proposal is the primary vehicle for communicating with funding agencies a plan for action, and potentially a contract. Approval of projects and funding decision by sponsoring agency may be taken once or twice a year, depending upon the guidelines of the agency. But, proposals should be submitted at least six months prior to the start date. A six month review period is adequate for many agencies. Thus, the preparation of a research grant proposal cannot be taken lightly. Obtaining institutional review and approval, peer reviews, letters of support, budget information, commitments from personnel, vitae, and multiple signatures is a tedious but essential process.

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SAMPLE 1

PROPOSAL FORMAT GUIDELINES

Northeast Regional Center For Rural Development (Proposal Kit)

Title Page

1. Title: A brief, clear, specific statement of the project.
2. Duration of project, for example, July 1, 1990-June 30, 1991.
3. Names of principal investigator(s) and host institution(s).
4. Abstract or summary (maximum of 1/2 page).

Problem Statement

What is the problem? Why is it a problem for the Northeast region? How is the problem related to rural development? Is this problem a research/extension priority for NERCRD? Why is support from the Northeast Regional Center for Rural Development appropriate for this kind of project?

Related Current and Previous Work

What evidence/documentation is there to support the problem statement: Include a brief literature review which demonstrates your knowledge of the field and indicates where gaps exist. How will the outcome of this project help meet the needs/priorities of NERCRD?

Program Proposed

Purpose: What is the stated purpose of your program? What are your objectives? Objectives should be clear, concise, and measurable.

Approach: What approach will be used (gathering of primary or secondary data, method of analysis of existing data, workshop, conference, or other)? Describe working plans and methods to attain your objectives.

Anticipated outcome: Research paper, conference, conference proceedings, extension materials with regional usefulness.

Anticipated audience: Research, extension professionals, both, other.

Human Subject Form

If your proposal involves research on human subjects, include a verification of human subjects review from your host

institution. After the proposal is evaluated at NERCRD, if further human subject review is deemed necessary, you will be notified about any additional procedures.

Personnel Involved — For each member of the project team, specify the following four items: institution, personnel involved, time required, and responsibilities.

Budget — Use enclosed form. Include the in-kind costs (salaries, secretary costs, etc.) under "matching institutions" as appropriate. NERCRD looks favorably on proposals which indicate support from the host institutions and other funding sources.

References — Cite relevant research and extension sources used in the *Problem Statement* and *Related Current and Previous Work* sections.

APPENDIX

Timetable — The timetable should display the projected tasks and who will perform them over the duration of the project. Interim and final report points should be shown.

Approval — Include letters of administrative approval from each institution involved with the proposal. Include an acknowledgment waiving all overhead costs.

Vitas — Include short vitas for project participants. List addresses and telephone numbers.

SAMPLE 2

ESSENTIALS OF A PROJECT OUTLINE

Hatch, McIntire-Stennis or State Matching Funds

The format for the outline for proposals to be funded from Hatch, McIntire-Stennis or State Matching Funds should follow the list below (specified in the Administration manual for the Hatch or McIntire-Stennis Acts).

Title	A brief, clear, specific designation of the subject of the research. The title, used by itself, should reflect the objectives and scope of the project.
Justification	Present (1) the importance of the problem to agriculture and rural life of the State or region, (2) reasons for doing work (such as the needs the project will fill) and doing it at this time, and (3) ways in which public welfare or scientific knowledge will be advanced.
Previous Work and Present Outlook	A brief summary of previous research (citing important publications), status of current research, and the additional knowledge needed which the project is expected to provide. (Literature citations may be included at the end of the project outline).
Objectives	A clear, complete, and logically arranged statement of the specific objectives of the project.
Procedure	A statement of the essential working plans and methods to be used in attaining each of the stated objectives. Procedures should correspond to the objectives and follow the same order. Phases of the work to be undertaken currently should be designated. Location of the work and the facilities and equipment needed and available should be indicated. Wherever appropriate, the procedure should produce data suitable for statistical analysis. The procedure should reflect careful planning and should provide flexibility for changes if changes become necessary.

Probable Duration

An estimate of the maximum time likely to be required to complete the project and publish results. Whenever a material change in the objectives of a project is advisable, a new or revised project outline should be prepared and submitted. A major change in procedure might also necessitate a revision of the project outline.

Financial Support

Estimated annual allotments (by funds) to (1) salaries, and (2) maintenance, based on analysis of requirements for labor, equipment, supplies, travel, and other operating expenses. Or, as an alternative, the estimated total scientist-years (SY) proposed for the project.

Personnel

The leader or leaders and other professional and technical workers assigned.

Institutional Units Involved

Each subject-matter unit in the Agricultural and Forestry Experiment Station and any other units of the institution contributing essential services or facilities. The responsibilities of each should be indicated. If there is an advisory, coordinating, or directing committee for the project, the official title of the committee should be listed.

Cooperation

A statement listing the U.S. Department of Agriculture or other stations, institutions, or agencies expected to cooperate formally or informally on the projects. If project is part of a Regional effort, list Regional Research Project Number.